Utilities Annual Report

for Bloomington, Minnesota • 2012 Year end

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City of Bloomington Minnesota

Providing our community with superior customer service

In Bloomington, we are constantly looking for opportunities to improve the quality, efficiency, and timeliness of the services we provide. Because ours is a work environment that is heavily regulated at the local level, as well as state and federal levels, we sometimes must look beyond the "quick fixes" and seek opportunities and innovations that will prove to be beneficial to the City's residents, businesses, and its operation in the long-term.

In this year's Utilities Annual Report, we have highlighted two such opportunities: expanding the water treatment plant laboratory in 2001-02, in conjunction with the water plant expansion, and incorporating the Tri-City Lab as part of the City's lab expansion. This initiative was vetted and acted on over a decade ago, and has since proven to be a valuable asset to our operations.

The other, more recent initiative highlighted in this Annual Report is one that was researched, decided on, and implemented in the last 24 months. As the public has grown more accustomed to browsing, researching, shopping, and banking on-line, it only seemed natural that the City allow for homeowners and contractors to apply and pay for their utility permits on-line.

Both of these changes to our organization have proven to be beneficial and well-received by the public, as well as to our staff who are responsible to work in these areas of our operations. Providing our customers

with more choices in how we deliver the services they desire, or require, has led to implementing service changes and incorporating technology innovations to address those needs, all the while becoming more efficient at what we do.

The Utilities Division employed more than 50 people, with a budget of more than $27 million.

Also in 2012

- The **Utilities Division** employed more than 50 people. Professionalism is a highly touted value within the Division. All operations staff are encouraged to continue to ascend their **state licenses**.
- Utilities continued its **Total Asset Management** plan with the global goal of institutionalizing the program.
- Both the *Water and Wastewater System Master Plans* were updated and integrated into the City's *Comprehensive Plan*.

The Administrative Section of Utilities is committed to providing a comprehensive water and wastewater utility services package at a rate that is less than the average cost of other cities providing a similar level of service. Each year, the Utilities Division is benchmarked in our **annual rate survey** against similar utilities. Rates are ultimately driven by the **Water and Wastewater Funds' expenses.**

Things we find in the sewer

Sometimes we get questions about what we find in the sewer, like...“Are there any rats down there? How about alligators?” Young children will ask, “Have you seen the Teenage Mutant Ninja Turtles?” The answer is...no! None of those things exist in the sanitary sewer.

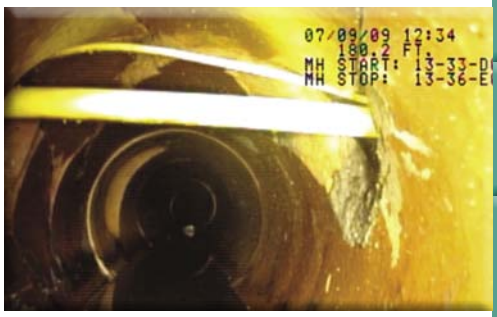
For many years, the Utilities Division hired a contractor to inspect sanitary and storm sewer pipes using closed circuit television (CCTV). In 2006, the City purchased a special truck with all the equipment needed to do the video inspections of the pipes in-house. Several Utility Operators were trained on the use of the cameras and how to record the findings with special codes.

To date, over 2,000,000 linear feet of sewers have been videotaped.

Most pipes are in very good condition, but now and then, defects such as bad joints, cracked clay pipes or tree root intrusion were found. If a pipe is found in very bad condition, a repair is scheduled right away.

We have found other interesting things like coins or jewelry in the pipes, but not very often, because the pipes are cleaned almost every year.

One important defect we are always looking for is the presence of another utility that has been installed through or has damaged our pipe. This installation process is called directional boring. It is a trenchless technology used to install shallow utility lines like gas, electric, and cable/phone/communication lines. Directional boring contractors that inadvertently drill too deep or lose accuracy can damage other pipes and not even know the damage was done. This is especially dangerous when installing gas or electric lines. Later, if City crews attempt to remove an obstruction or clean the pipe, a gas leak or explosion could occur.



Each day, the City’s 28 pumping stations move more than 10.5 million gallons of wastewater out of the city.

Also in 2012

- Utilities uses a device on its high pressure sewer cleaners (also known as sewer jets or jetters) called the Warthog nozzle. The Warthog (pronounced wart-hog) cuts and removes roots growing in our collection system utilizing a stream of water under high pressure. It has greatly improved our efficiency and has resulted in the best surface cleaning available.

Routine maintenance

- A total of 314 miles of pipe was cleaned by the City’s JETTER and RODDER.
- Utilities crews inspected 293,410 feet of the sanitary sewers using cameras.

Wastewater Collection strives to provide the continuous conveyance of wastewater into the regional treatment system. One benchmark used to evaluate Utilities’ performance is the number of **POSITIVE SEWER STOPPAGES** – our goal continues to be zero stoppages. The Division used routine operational and maintenance activities, such as **SEWER JETTING AND RODDING**, and **CLOSED CIRCUIT TELEVISING** to keep the sewage flowing in 2012.

History of the Lab

In 2001, the expansion of the Water Treatment Plant also included major improvements and expansion to our on-site analytical Lab. The Tri-City/William Lloyd Analytical Lab more than doubled in size to keep pace with the ever-increasing demands placed upon it. Over the years, the equipment purchases and highly skilled staff have brought the Lab to the forefront of water industry testing facilities.

The Lab provides water testing for numerous cities throughout the metro area, in addition to performing a variety of analyses for our own community's water system. The Lab is certified by the Minnesota Department of Health as an environmental contract lab, which means we can test drinking water or clean water (ponds, lakes, storm runoff, etc.). It is also capable of testing water for individual/private customers for a fee.

As the 2012 year came to a close, this multi-functional Lab performed more than 21,000 tests on the City's raw (ground) water, distribution water, supplemental (Minneapolis) water, and numerous private and surrounding metro communities' water supplies. The Lab has proven to be a great asset to other departments within the City as well. The Lab provided 78 state-mandated bacteria tests for new water main construction projects; 162 analyses on area pond samples for the Engineering Department; 24 E. coli bacteria tests on Bush Lake Beach for the Environmental Health Department; and responded to 27 water quality calls from its residents.

In 2012, the Lab performed analyses on 115 private home owners' wells and received more than 2,600 samples from customers throughout the state of Minnesota. We were even recommended by the University of Minnesota Dental School to test for fluoride in well water for dental offices around Minnesota and Wisconsin. The Lab has also had a role in investigating innovative water testing equipment and methods from manufacturers that are seeking approval from the Environmental Protection Agency for safe drinking water method certification.

In the past, the idea of this multi-dimensional Lab was to provide quality water testing for the residents of the city of Bloomington and to outside consumers at a reasonable price, which would by no means provide competition to surrounding environmental laboratories. The Lab does not advertise or solicit for business; the Lab's steady growth is due entirely to word-of-mouth of its satisfied customers. With that being said, the large volume of everyday quality testing/checking that we provide for the City's water supply could virtually cost more than $211K, if we were to get invoiced actual lab fees from an external source; however, the Tri-City Lab is self-sufficient and has built up an adequate amount of clientele that virtually pays for the City of Bloomington to be at the top of their game with regards to great water quality!

Between October 9 and 19, 2012, 28,272 tons of ALM were transported and spread over 3,177 acres of farm fields.

Also in 2012

- **Agricultural liming material (ALM)**, a byproduct of softening drinking water, is sold in late fall and applied to fields in nearby counties. Agricultural lime, which has a primary active component of calcium carbonate, corrects soils with high levels of acidity. Between October 9 and 19 last year, 28,272 tons of ALM were transported in 1,168 truckloads to 45 farm fields and spread over 3,177 acres.
- The City's lime-softening process removes most of the hardness in Bloomington's water, reducing it from 19 grains per gallon (raw water) to about 5.2 grains per gallon (finished water). The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing.

Water Supply and Treatment strives to provide a sustainable supply of water that meets or exceeds all federal and state standards. A benchmark of this endeavor is the results reported in the federally mandated **Water Quality Report**. In 2012, water usage fell short of the **projected demand**.

Man vs. infrastructure

The Bloomington Utilities Division staff has maintained the City's water and wastewater systems since installation in the late 1950's. They are currently in the process of developing and implementing a formal Utility Asset Management Program. The goal of the program is to utilize collected information, analyze condition, performance, and reliability to provide cost-effective and efficient capital improvement recommendations and well-informed decisions, and take more of a smart business approach in dealing with infrastructure maintenance and scheduled replacement. To promote the Asset Management Program, staff decided to produce an informative video which was used as an introduction to a group presentation at the American Water Works Association Minnesota Section Annual Conference. In an attempt to make the video mildly funny yet informative, it was modeled in the style of the popular TV series "Man vs. Wild". While staff has decided to keep their day jobs, the video successfully comes across presenting some of the key components of the developing Asset Management Program. Thanks to the Bloomington Communications staff's great editing skills, about nine minutes of filming was salvageable for the video.

The video was utilized to communicate the importance of managing aging infrastructure. Managing assets utilizing a program provides meaningful data and information to measure sound business decisions that impact capital budgets. The video was also utilized in conjunction with the American Water Works Association National Drinking Water Week. This national event is aimed to increase the community's awareness of how precious water is to our society.

The water distribution system's 4,600 hydrants and 6,900 valves require constant vigilance.

Also in 2012

- After serving the Utilities Division faithfully since 1963, Utilities retired the hand-held gate valve exerciser. Parts for this piece of equipment had become obsolete, so a new exerciser was necessary. A Wachs hand-held gate valve operator that is electric was purchased. This new tool helps the crews maintain gate valves throughout the city more efficiently.

Routine maintenance

- The water distribution system's approximately 4,600 hydrants and 6,900 valves require constant vigilance. A **painting program** blankets the city on a revolving basis. Small valves are exercised on a biennial basis; larger valves are operated yearly.

Water Distribution strives to provide an uninterrupted flow of high quality potable water for both domestic and firefighting purposes. The largest potential disruption to service occurs as a result of main breaks. There were **17 main breaks repaired** in 2012. The **10-year average** for main breaks is 21 per year.

Permits go online

Utilities implemented an online permitting system in 2012 to provide web-based permit applications to contractors and other utilities. The software gives applicants the option of submitting permit applications online for Right-of-Way or Utilities permits. In addition to facilitating permit applications, the software provides staff the ability to process permit approvals, permit inspections, and permit payments via an online credit card process.

As with other internet solutions, this software gives the user the ability to log in from anywhere to submit a permit application, including the use of field-based computers. Utilities staff can also review the application in the field via their field-based computers. One other feature of the software is the ability to attach associated drawings and maps that facilitate the review process.

Utilities is optimistic that this software will be the permit application method of choice in the future, providing an efficient means for applicants to submit a permit application without ever leaving their office.

Customer Service processes more than 180,000 bills per year and manages more than 27,000 accounts.

Also in 2012

- The first full year of new water and sewer rates, which comprised the biggest rate restructuring in the history of Utilities, was in 2011. Rate changes included a two-tier water rate structure, elimination of the basic charge, implementation of water and sewer minimums, and a new sanitary sewer rate for residential customers based on water flow.
- The new Two-Tier water rate for residential properties is mandated by the State of Minnesota to encourage conservation. The rate allows for normal usage billed at the first Tier and excess use billed at the second Tier.
- All single-family homes moved to flow-based bimonthly billing for wastewater. Each bill is based on a single-family home's average winter water usage. This method recognizes that extra water used during summer months for irrigation does not enter the sanitary sewer.
- These structural changes, designed to fairly allocate costs for water and sanitary sewer usage, are independent of future rate increases that may be approved by the City Council.

Customer Service continually strives to meet or exceed our customers' expectations. In addition to the permitting duties, staff is charged with mandated One-Call Utility Locating. Customer Service also oversees the water meter maintenance program, which obtained 9,820 readings in 2012.